

NITC 7-RD-01

State of Nebraska Nebraska Information Technology Commission Standards and Guidelines

NITC 7-RD-01 (Draft)

Title	Resource Document: Telecommunications Facilities and Services
Category	Network Architecture
Applicability	Applies to all state agencies, boards, and commissions, excluding higher education

1. Purpose

This resource document is intended to provide guidance to agencies on telecommunications facilities and services needed in an ordinary office setting and to provide a suggested allocation of responsibilities between a Lessor, Lessee, and Tenant Agency. Any such work in a state owned building should meet these minimum requirements.

2. Responsibilities of Lessor and Lessee (Tenant Agency)

2.1. Responsibilities of the Tenant Agency

The Tenant Agency will obtain all telecommunication services, except local cable-television or satellite-television services, from the Office of the Chief Information Officer (OCIO).

The Tenant Agency will pay the monthly charges for said telecommunication services.

The Tenant Agency will pay any charges for local cable-television or satellite-television services. This includes costs to install satellite-television receiving equipment and cabling.

The Tenant Agency will contact the OCIO should any of the items in this document not meet the needs of the agency.

2.2 Responsibilities of the Lessor

The Lessor should insure adequate entrance facilities are provided for the telecommunication services required by the Tenant Agency. This includes all necessary tie cables between the service provider's terminal and/or demarc blocks and all remote wiring-closets/consolidation-points used to attach services to the station cabling serving the telecommunication information outlets. Costs associated with the installation and/or upgrading of existing entrance facilities and/or tie cables should be incurred by the Lessor.

The Lessor shall provide, at a minimum, a telecommunications information outlet at each desk and/or workstation. Each telecommunications information outlet should consist of two modular jack connectors: one telephone (voice) jack and one computer (data) jack.

3. Telecommunications Facilities and Services - Recommended Requirements

3.1. Telecommunications Information Outlet Cabling Requirements

Each telephone cable shall be a solid copper, 24 AWG, 100 Ω balanced twisted-pair (UTP) Category 3 cable with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications as outlined in the most current ANSI TIA-568 Commercial Building Telecommunications Cabling Standard, as of the signing date of the lease agreement.

Each data cable shall be a solid copper, 23 or 24 AWG, 100 Ω balanced twisted-pair (UTP) Category 6 cable with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications as outlined in the most current ANSI TIA-568 Commercial Building Telecommunications Cabling Standard, as of the signing date of the lease

agreement.

3.2. Telecommunications Information Outlet Connector Requirements

Each voice outlet shall be an 8-pin modular, Category 3, unkeyed jack, using the USOC pin/pair assignment.

Each data outlet shall be an 8-pin modular, Category 6, unkeyed jack, using the T568B pin/pair assignment.

3.3. Telecommunications Cabling Installation Requirements

The Lessor shall provide a complete and working telecommunication distribution system. This system shall include, but is not limited to: all station, riser, aerial, and intra-campus cables as required; conduits, raceways, and all associated cable support hardware; telephone and data outlet connectors, face plates, and identification labels; termination blocks and brackets, patch panels and mounting brackets, distribution rings; all cable terminations and testing; and all associated appurtenances as required by the distribution system.

Each telephone and computer jack shall be terminated on separate cables, which shall be terminated on separate connecting blocks/panels at a common central location.

Installation, termination, and testing of telecommunications information outlet components shall be performed by qualified personnel, employed by a company whose primary business is providing telecommunication services. This does not include work normally performed by an electrical contractor.

All work shall be performed in accordance with the equipment manufacturer's requirements.

All cable terminations shall be performed at the respective terminal boards, equipment cabinets, and station outlets.

All station cabling shall be "home run" to appropriate distribution frame, block, or equipment cabinet. No splices will be allowed in these lines.

Distribution panels are not to be located in a plenum area or above accessible ceilings.

All cables installed above accessible ceilings shall be neatly bundled utilizing commercially available products and attached to appropriate supports. Cables installed randomly and disorderly will not be allowed.

All cables shall be installed in a fashion not to interfere with the general maintenance of other electrical/mechanical devices, as well as in a manner that other electrical/mechanical devices will not interfere with the operation of the cables intended application.

All installations shall conform to the most current ANSI TIA-568 Commercial Building Telecommunications Cabling Standard, as well as any associated technical systems bulletin, as of the signing date of the lease agreement.

Further information may be obtained by contacting the OCIO (Phone: 402-471-3851).

3.4. Telecommunications Information Outlet Testing Requirements

Each Voice and data cable link shall be tested and conform to the most current ANSI TIA-568 Commercial Building Telecommunications Cabling Standard, as of the signing date of the lease agreement. Testing shall be accomplished using level III or higher field testers.

3.5. Telecommunications Information Outlet Documentation Requirements

Each information outlet faceplate and closet termination point shall be labeled.

The Lessor shall provide a floor plan (paper copy and editable electronic copy) of the occupied space to the Tenant Agency. This floor plan shall indicate the following: outlet locations and labeling scheme; wiring closets and/or station-cabling concentration points; telephone rooms; data server rooms; and, if more than one wiring closet serves the occupied space(s), a visual representation shall indicate the floor area(s) being served by each closet.

The Tenant Agency shall maintain a current copy of the Lessor-provided floor plan, indicating any

moves, adds, or changes to the information outlets which occurred during the period of the lease. At the end of the lease term, the Tenant Agency shall provide the Lessor a copy of this updated and current floor plan.

3.6. Regulatory and Other Requirements

Wiring methods, conductor applications, and insulation materials shall meet all applicable provisions of the National Electrical Code and Federal Communications Commission Rules and Regulations as well as applicable State and Local Codes.

All new cables and wires installed shall be listed by Underwriters Laboratories, Inc.

All cables installed shall meet appropriate fire ratings.

4. Definitions

4.1. Demarc – (demarcation point). The physical point at which separation is made between the telecommunications service provider's cable facilities and those owned by the end user/building owner. The point in which the provider's service is handed off to the user's cable facilities and/or equipment. Multiple demarc locations in one physical structure are common. Tie cables which provide connectivity between entrance facilities and demarc locations are owned by the local service provider.

4.2. Entrance Facilities. An entrance to a building for both public and private network service cables (including antennas) including the entrance point at the building wall and continuing to the entrance room or space. Entrance facilities are often used to house electrical protection equipment and connecting hardware for the transition between outdoor and indoor cable. The Entrance Facility includes overvoltage protection (often referred to as a terminal) and connecting hardware for the transition between outdoor and indoor cable.

4.3. Home Run. Individual cable run installed from a central distribution point to termination point. Each cable run is a continuous length without a splice or intermediate point. Each cable run is a continuous length without a splice or intermediate termination point. Typically referred to as a "Star" topology.

4.4. Telecommunication Facilities. The aggregate of equipment used for various modes of transmission, such as digital data, audio signals, image and video signals. This equipment is provided by the local service provider and the Office of the Chief Information Officer.

4.5. Telecommunication Service. Any service provided by a telecommunication provider and/or by the Office of the Chief Information Officer.

4.6. Telecommunications Information Outlet. User connection facility provided in a Work Area as part of a Structured Cabling System.

4.7. Tie Cable. Cabling facilities used to connect two physical points together. Ex: multi-conductor cable used to extend services from an entrance room or space to a remote wiring closet or station-cabling cross-connect field. Riser cables, used to extend services between floors of a structure, are also considered tie cables. Tie cables can be copper or optical fiber in construction.

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